

Science Inquiry + Science Literacy = Student Success

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Weblinks at <http://i-9490-directors.wikispaces.com/Science+Inquiry>

Inquiring Minds Want to Know

Exploratorium Institute for Inquiry ~ Philosophy

<http://www.exploratorium.edu/ifi/about/philosophy.html>

Exploratorium Institute for Inquiry ~ Publications

<http://www.exploratorium.edu/ifi/about/publications/index.html>

Exploratorium Institute for Inquiry ~ Enhancing Inquiry through Formative Assessment

http://www.exploratorium.edu/ifi/docs/harlen_monograph.pdf

Mamaroneck (NY) Schools Nonfiction Inquiry Writing Site ~ Video

<http://mamkinquiry.edublogs.org/>

Science Inquiry ~ Center for Classroom Teaching and Learning ~ NWREL

http://www.nwrel.org/msec/science_inq/

The following list of nonfiction comprehension strategies comes from researchers like Keene and Zimmerman (1997), P. David Pearson, et. al., and Stephanie Harvey. They are also based upon a reading project sponsored by Denver's Public Education and Business Coalition that focuses on comprehension

1. **Activating background knowledge.** Readers pay more attention when they relate to the text—text to self, text to text, and text to world. Knowing something about an article's content before reading it gives readers an edge. Part of the meaning breakdown that can occur when reading expository text comes from a lack of prior information. Teachers can help readers build background knowledge where little or none exists.
2. **Questioning.** If confusion disrupts understanding, nonfiction readers need to stop and take stock of why and what they don't understand. Asking questions is at the heart of nonfiction inquiry and often leads to further research.
3. **Determining important ideas.** Reading to learn requires readers to identify essential information. There are many ways to help students do this.
4. **Monitoring and repairing comprehension.** Nonfiction text is often packed with unfamiliar ideas and vocabulary. Cracking these strange words and concepts is crucial to understanding. Knowing how to adjust when meaning breaks down is critical.
5. **Drawing inferences.** Reading between the lines requires inferential thinking. Inferring is particularly helpful when searching for answers to questions that are not answered directly in the text.
6. **Synthesizing information.** Reviewing, sorting, and sifting information are specific skills students should apply to nonfiction reading. These can lead to new insights that change the way readers think.
7. **Visualizing.** Sensory imaging makes reading pleasurable. When readers get pictures in their mind while reading, they are more likely to hang in with the text against difficult odds.

From Science and Literacy, Ellen Stone, National Energy Foundation

<http://www.usoe.k12.ut.us/curr/Science/ReadScience/NEF%20Sci%20and%20Lit.html>

When students are doing inquiry based science, an observer will see that students:

- ✓ View Themselves as Scientists in the Process of Learning.
- ✓ Accept an "Invitation to Learn" and Readily Engage in The Exploration Process.
- ✓ Plan and Carry Out Investigations.
- ✓ Communicate Using a Variety of Methods.
- ✓ Propose Explanations and Solutions and Build a Store of Concepts.
- ✓ Raise Questions
- ✓ Use Observation.
- ✓ Critique Their Science Practices.

From Inquiry-Based Science ~ What Does it Look Like? (1995)

http://www.exploratorium.edu/ifi/resources/classroom/inquiry_based.html



Teacher Background Activating Prior Knowledge

- International Wolf Center <http://www.wolf.org/wolves/learn/learn.asp>
- Timber Wolf (*Canis Lupus*) <http://www.dnr.state.wi.us/org/land/er/mammals/wolf/>
- WI Wildlife Federation ~ Wolf Trunk http://www.wiwf.org/education/education_trunks.htm
- Timber Wolf: EEK! Environmental Education for Kids (WI DNR)
<http://www.dnr.state.wi.us/org/caer/ce/eeek/critter/mammal/wolves.htm>
- Timber Wolf Information Network (adopt a wolf pack) <http://www.timberwolfinformation.org/>
- Wisconsin Wolves (Dog-Eared Publications) <http://www.dog-eared.com/wild/wolves/wolves.html>

Wolf Bibliography (Lexile)*

- Gray Wolf, Red Wolf, Patent, Dorothy Hinshaw (1060)
- Grey Wolf Pup, Doe Boyle (n/a)
- Growing Up Wild: Wolves, Markle, Sandra (800)
- How the Wolf Became a Dog, Zeaman, John (n/a)
- Look to the North: A Wolf Pup Diary, George, Jean Craighead (580)
- North American Wolves, Parker, Barbara Keevil (970)
- Once a Wolf: How Wildlife Biologists Fought to Bring Back the Gray Wolf, Swinburne, Stephen (1050)
- Red Wolf Country, London, Jonathan, (AD810)
- There's a Wolf in the Classroom!, Weide, Bruce and Patricia Tucker (770)
- Wild, Wild Wolves, Milton, Joyce (570)
- Wolves, Otto, Carolyn B. (760)
- Wolves, Simon, Seymour (970)
- Wolves for Kids, Wolpert, Tom (750)

*Lexile Framework for Reading Title Lookup

<http://www.lexile.com/DesktopDefault.aspx?view=ed&tabindex=5&tabid=67&tabpageid=313>